

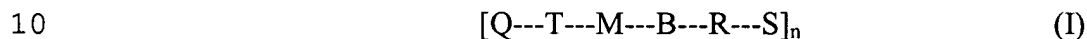
WHAT IS CLAIMED IS:

1. A method of treating neurodegeneration in a patient, comprising

5 identifying a patient at risk for neurodegeneration; and

orally administering to the patient a therapeutically effective amount of a deacetylase inhibitor.

2. The method of claim 1, wherein the deacetylase inhibitor is represented by general formula I:



wherein,

S is selected from the group consisting of H, saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons, -OR<sub>1</sub> or -NR<sub>1</sub>,

15 R<sub>1</sub> is selected from the group consisting of H, saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons, aryl, aralkyl, heterocyclyl, or heterocyclylalkyl, optionally substituted with from 1 to 3 substituents selected from halogen, amino, alkylamino, dialkylamino, pyrrolidino, piperidino, acylamino, cyano, aminomethyl, hydroxy, alkoxy, carboxyl, alkoxycarbonyl and  
20 nitro;

R is selected from the group consisting of -CO-X- or -X-CO-;

X is N-R<sub>2</sub> or is absent;

R<sub>2</sub> is selected from the group consisting of H, saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons, aryl,  
25 acyl and aralkyl, heterocyclylalkyl such as 2,3 and 4-pyridylmethyl;

R<sub>1</sub> and R<sub>2</sub> may combine to form a heterocyclic ring;

B is selected from the group consisting of aryl, saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons, heterocyclyl or is absent;

5 M is selected from the group consisting of saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons or aryl;

T is selected from the group consisting of urethane (-O-CO-NH- or -NH-CO-O-), amide (-NH-CO- or -CO-NH-), sulfonamide (-SO<sub>2</sub>-NH- or -NH-SO<sub>2</sub>-), urea (-NR<sub>1</sub>-CO-NR<sub>2</sub>-), where R<sub>1</sub> and R<sub>2</sub> are as defined before, imide (R<sub>3</sub>-CO-N-CO-R<sub>4</sub>), where R<sub>3</sub> and R<sub>4</sub> may combine to form an aryl such as 1,8-naphthyl moiety, or carbonyl (-CO-), or is absent;

10 Q is selected from the group consisting of H, OH, saturated or unsaturated, straight or branched, chiral or achiral, cyclic or acyclic hydrocarbyl group with 1 to 10 carbons or aryl, substituted aryl, aralkyl, substituted aralkyl, heterocyclyl, substituted heterocyclyl, heterocyclylalkyl and substituted heterocyclylalkyl, where the substituents, from 1 to 3, are selected from the group consisting of halogen, amino, alkylamino, dialkylamino, 15 pyrrolidino, piperidino, acylamino, cyano, aminomethyl, hydroxy, alkoxy, carboxyl, alkoxycarbonyl, nitro or absent; and

n is 1 or 2.

3. The method of claim 1, wherein the deacetylase inhibitor is selected from the group consisting of suberoylanilide hydroxamic acid (SAHA), butyrate, pyroxamide, 20 depsipeptide, MS-275, and derivatives thereof.

4. The method of claim 3, wherein the deactylase inhibitor is SAHA.

5. A method of treating polyglutamine-expansion-related neurodegeneration in a patient, comprising

25 identifying a patient at risk for polyglutamine-expansion-related neurodegeneration; and

orally administering to the patient a therapeutically effective amount of a deacetylase inhibitor.

6. The method of claim 5, wherein the deacetylase inhibitor is selected from the group consisting of SAHA, butyrate, pyroxamide, depsipeptide, MS-275, and derivatives thereof.

7. The method of claim 5, wherein the deacetylase inhibitor is SAHA.

5 8. A method of treating Huntington's disease in a patient, comprising  
identifying a patient at risk for Huntington's disease; and  
orally administering to the patient a therapeutically effective amount of a deacetylase inhibitor.

10 9. The method of claim 8, wherein the deacetylase inhibitor is selected from the group consisting of SAHA, butyrate, pyroxamide, depsipeptide, MS-275, and derivatives thereof.

10. The method of claim 8, wherein the deacetylase inhibitor is SAHA.

11. A method of treating Parkinson's disease in a patient, comprising  
identifying a patient at risk for Parkinson's disease; and  
15 orally administering to the patient a therapeutically effective amount of a deacetylase inhibitor.

12. The method of claim 11, wherein the deacetylase inhibitor is selected from the group consisting of SAHA, butyrate, pyroxamide, depsipeptide, MS-275, and derivatives thereof.

20 13. The method of claim 12, wherein the deacetylase inhibitor is SAHA.

14. A method of treating amyotrophic lateral sclerosis in a patient, comprising  
identifying a patient at risk for amyotrophic lateral sclerosis; and  
orally administering to the patient a therapeutically effective amount of a deacetylase inhibitor.

25

15. The method of claim 14, wherein the deacetylase inhibitor is selected from the group consisting of SAHA, butyrate, pyroxamide, depsipeptide, MS-275, and derivatives thereof.

16. The method of claim 15, wherein the deacetylase inhibitor is SAHA.